

M.E. First Semester (Computer Sci. & Engg.) (F.T.) (CGS)
13145 : Database Processing : 1 RMEF 5 / 3 RME 2

P. Pages : 2

Time : Three Hours



AU - 3226

Max. Marks : 80

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answer necessary with the help of neat sketches.
 4. Use of pen Blue/Black ink/refill only for writing book.

1. a) Explain in brief the limitations of file processing system and explain how database technology overcomes the limitations. 6
b) Define the following. 8
 - i) Entity
 - ii) Weak Entity
 - iii) Cardinality
 - iv) One-to-Many Relationship.

OR

2. a) Name the major components of database system and briefly explain the function of each. 8
b) Explain compound object with an example. 6
3. a) Define the following. 8
 - i) Functional Dependency
 - ii) Multivalued Dependency
 - iii) Primary Key
 - iv) Deletion Anomaly
b) Define Normalization and explain 3NF with an example. 5

OR

4. a) Explain BCNF. Give an example of a relation in 3NF but not in BCNF. Transform the relation into BCNF. 7
b) Explain 1NF and 2NF with an example. 6
5. a) Explain the simple and complex network. 6
b) Show how to represent the simple object and composite object by means of a relation. 7

OR

6. a) Define the following. 8
 - i) Surrogate key
 - ii) Trees
 - iii) Bills of materials
 - iv) Complex networks.
b) Show how to represent the N:M relationship with suitable example. 5

7. a) For the following Relations SALESPERSONS (S Name, age, PQuota, Salary) 10
ORDER (No, SName, CName, Amount)
CUSTOMER (Name, City, IType)
Write SQL expressions for the following.
i) Show the name and salary of all salespersons.
ii) Change salary to 10000 for salesperson = 'Amol'.
iii) Show the customer name who lived in city 'Pune'.
iv) Arrange the customer records in descending order.
v) Show the records of customers whose name starts with character 'A'.
b) Explain any four fundamental relational algebra operators. 4

OR

8. a) Explain SQL built in functions. 6
b) Consider the following relations 8
STUDENT (SID, SName, Dept, City, Fees paid)
ENROLLMENT (SNo, ClassName, Position)
Write SQL Queries for the following.
i) Show the records of students having SID between 200 to 500 (Using BETWEEN operator as well as without using BETWEEN operator)
ii) Display the maximum & minimum fees paid by the students.
iii) Sort the enrollment records in ascending and descending order according to SNo.
iv) Insert one record in both the relations (Assume suitable data).
9. a) Explain DBA functions. 6
b) Explain cursor type in detail. 7

OR

10. a) Explain ACID property with an example. 7
b) Describe the DBMS security 6
11. a) What is JDBC and list the steps used in JDBC. 7
b) Explain DTD with an example. 6

OR

12. a) Explain XML with an example. 7
b) Explain 3-tier Architecture. 6
